The Importance of Covering Your Ass (Acid Sulphate Soils)

Objective – Find the ogre
To identify if ASS was present within the work area and, if identified, to effectively and efficiently manage the soils. This included complying with legislation, upskilling employees, contractors and consultants and ensuring no environmental impacts occurred.

Method – Shrek to the rescue
Initial testing – completed by consultant. Potential Acid Sulphate Soils (PASS) was found down to 3.1m but unknown at greater depths.
What we found – acid sulphate soils present the entire length of the pipeline.

What this meant – more acid sulphate soils present than initially thought or planned for.
Variable liming rates required
- First 80m of the under bore = 16kg lime per tonne of soil
- Next 180m of the under bore = 120kg lime per tonne of soil
What we did –
- Added lime to the soil at carefully calculated rates – see Mud Puppy
- Completed onsite testing to see if liming was successful
- Took samples to classify the soil type (waste or clean fill)

How we disposed of the soil – to the local tip

Conclusions / Outcomes – All become friends
- Setting the standard for future works -
  - In the field – sampling, testing
  - Paperwork including the PASS management plan.
- Ensuring compliance
- Transferring knowledge to other jobs
- Contractors and consultants are more aware of ASS and how it impacts on tasks

Layers, the same as acid sulphate soils.
Soil acidity can change dramatically within the soil profile and therefore careful testing needs to be undertaken by qualified people.

Take a journey of discovery

Project timeline / outline
2012 – Leak discovered in pipe under Mitchell River
2012 – Immediate repairs undertaken to ensure supply
2012 – Decision to replace pipeline
2012 – Early planning, discovery of Potential Acid Sulphate Soils within the construction zone
2013 – Contract awarded, PASS management plan developed in-house
2013 – Installation of pilot 250 OD pipe
2013 – Testing and confirmation of presence of ASS
2013 – Installation and commissioning of 900 OD water main